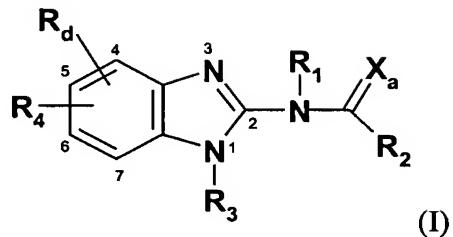


We Claim:

1. A compound of the formula (I):



5

wherein:

R₁ is hydrogen or alkyl;

R₂ is chosen from aryl and heteroaryl each **R₂** is optionally substituted with one or more
10 **R_a**;

R₃ is C₁₋₁₀ alkyl chain branched or unbranched optionally substituted with one or more
R_b,

or **R₃** is the group:

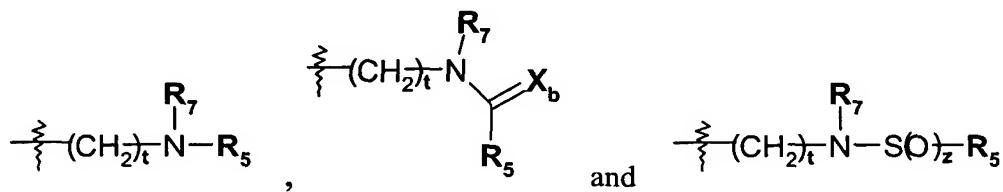
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-(CH₂)_n- **L-R₆**, wherein **L** is chosen from a bond, -NH-C(O)-, -O-C(O)-,
-C(O)- and -S(O)_m- wherein **m** is 0, 1 or 2, and wherein said group is optionally
substituted by one or more **R_b**;

wherein **R₆** is independently chosen from hydrogen, hydroxy, alkyl, alkoxy,
20 alkylthio, arylC₀₋₅ alkyl, aryloxyC₀₋₅ alkyl, heteroarylC₀₋₅ alkyl, cycloalkylC₀₋₅ alkyl,
heterocyclylC₀₋₅ alkyl and amino said amino is optionally mono-or di-substituted by acyl,
alkyl, alkoxy carbonyl, cycloalkylC₀₋₅ alkyl, arylC₀₋₅ alkyl, heteroarylC₀₋₅ alkyl or
heterocyclylC₀₋₅ alkyl;

n is 1 - 10;

25 **R₄** is a group chosen from:



wherein \mathbf{R}_4 is covalently attached at the indicated 5- or 6- position of the formula (I), t and z are each independently chosen from 0,1 or 2;

5 \mathbf{R}_5 is chosen from arylC₀₋₅ alkyl, alkyl, heteroarylC₀₋₅ alkyl, cycloalkylC₀₋₅ alkyl and heterocyclylC₀₋₅ alkyl, each \mathbf{R}_5 optionally substituted with one or more \mathbf{R}_c ;

\mathbf{R}_7 is hydrogen, alkenyl or alkyl;

10 or \mathbf{R}_5 and \mathbf{R}_7 together with the nitrogen atom to which they are attached form:
a 4-7-membered monocyclic ring or
an 8-14-membered bicyclic ring,
wherein each monocyclic or bicyclic ring optionally contains an additional 1 to 3 heteroatoms chosen from N, O and S and each ring is aromatic or nonaromatic, and
15 wherein each monocyclic or bicyclic ring is optionally substituted by one or more \mathbf{R}_c ;

each \mathbf{R}_a , \mathbf{R}_b or \mathbf{R}_c are independently chosen from hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, aryl, arylalkyl, aryloxy, alkoxy, alkylthio, acyl, alkoxycarbonyl, acyloxy, acylamino, sulphonylamino, aminosulfonyl, alkylsulfonyl, carboxy, carboxamide, oxo, 20 hydroxy, halogen, trifluoromethyl, nitro, nitrile and amino optionally mono-or-di-substituted by alkyl, acyl or alkoxycarbonyl, wherein any of the above \mathbf{R}_a , \mathbf{R}_b or \mathbf{R}_c are optionally halogenated where possible;

25 \mathbf{R}_d , covalently attached at the indicated 4-, 5-, 6- or 7-position of the formula (I), is chosen from hydrogen, alkyl, alkoxy and halogen and

\mathbf{X}_a and \mathbf{X}_b are oxygen or sulfur;
or the pharmaceutically acceptable salts, esters, acids, isomers or tautomers thereof.

2. The compound according to claim 1 wherein:

R₁ is hydrogen;

5

R₂ is chosen from phenyl, naphthyl, and heteroaryl chosen from thienyl, furanyl, isoxazolyl, oxazolyl, thiazolyl, thiadiazolyl, tetrazolyl, pyrazolyl, pyrrolyl, imidazolyl, pyridinyl, pyrimidinyl, pyrazinyl, pyridazinyl, pyranyl, quinoxalinyl, indolyl, benzimidazolyl, benzoxazolyl, benzothiazolyl, benzothienyl, quinolinyl, quinazolinyl and 10 indazolyl each **R₂** is optionally substituted with one or more **R_a**;

10

R₃ is C₁₋₁₀ alkyl chain branched or unbranched optionally substituted with one or more **R_b**,

or **R₃** is:

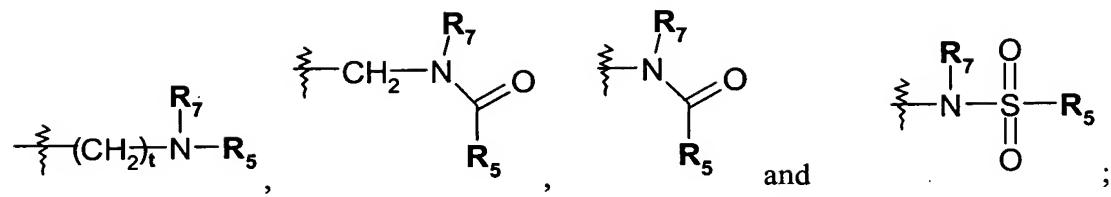
15

-(CH₂)_n- **L-R₆**, wherein **L** is chosen from a bond, -O-C(O)-, -C(O)- and -S(O)_m- wherein **m** is 0, 1 or 2, and wherein said group is optionally substituted by one or more **R_b**;

20

wherein **R₆** is independently chosen from hydrogen, hydroxy, C₁₋₅ alkyl, C₁₋₅ alkoxy, C₁₋₅ alkylthio, phenyl, naphthyl, benzyl, phenethyl, heteroarylC₀₋₅ alkyl, C₃₋₇ cycloalkylC₀₋₅ alkyl, heterocyclylC₀₋₅ alkyl and amino said amino is optionally mono-or di-substituted by C₁₋₅ acyl, C₁₋₅ alkyl, C₁₋₅ alkoxy carbonyl, arylC₀₋₅ alkyl, heteroarylC₀₋₅ alkyl or heterocyclylC₀₋₅ alkyl; and wherein each recited heteroaryl in this paragraph is chosen from thienyl, furanyl, isoxazolyl, oxazolyl, thiazolyl, thiadiazolyl, tetrazolyl, pyrazolyl, pyrrolyl, imidazolyl, pyridinyl, pyrimidinyl, pyrazinyl, pyridazinyl and pyranyl and 25 wherein each recited heterocyclyl in this paragraph is chosen from pyrrolidinyl, morpholinyl, thiomorpholinyl, dioxalanyl, piperidinyl and piperazinyl;

R₄ is a group chosen from:



R₅ is chosen from phenyl, naphthyl, benzyl, phenethyl, C₁₋₅ alkyl, heteroarylC₀₋₅ alkyl wherein the heteroaryl is chosen from thienyl, furanyl, isoxazolyl, oxazolyl, thiazolyl, thiadiazolyl, tetrazolyl, pyrazolyl, pyrrolyl, imidazolyl, pyridinyl, pyrimidinyl, pyrazinyl, pyridazinyl and pyranyl, C₃₋₇ cycloalkylC₀₋₅ alkyl and heterocyclC₀₋₅ alkyl wherein the heterocycl is chosen from aziridinyl, pyrrolidinyl, morpholinyl, thiomorpholinyl, tetrahydrofuranyl, dioxalanyl, piperidinyl and piperazinyl, each **R₅** is optionally substituted with one or more **R_c**;

10

each **R_a**, **R_b** or **R_c** are independently chosen from hydrogen, C₁₋₅ alkyl, C₂₋₅ alkenyl, C₂₋₅ alkynyl, C₃₋₈ cycloalkyl, phenyl, benzyl, phenoxy, C₁₋₅ alkoxy, C₁₋₅ alkylthio, C₁₋₅ acyl, C₁₋₅ alkoxycarbonyl, C₁₋₅ acyloxy, C₁₋₅ acylamino, C₁₋₅ sulphonylamino, aminosulfonyl, C₁₋₅ alkylsulfonyl, carboxy, carboxamide, oxo, hydroxy, halogen, trifluoromethyl, nitro, nitrile and amino optionally mono-or-di-substituted by C₁₋₅ alkyl, C₁₋₅ acyl or C₁₋₅ alkoxycarbonyl, wherein any of the above **R_a**, **R_b** or **R_c** are optionally halogenated where possible;

R_d is chosen from hydrogen, C₁₋₃ alkyl, C₁₋₃ alkoxy and halogen;

20

R₇ is hydrogen, C₃₋₁₀ alkenyl or C₁₋₅ alkyl;

and

X_a is oxygen.

25 3. The compound according to claim 2 wherein:

R₂ is chosen from phenyl, naphthyl and heteroaryl chosen from thienyl, furanyl, isoxazolyl, oxazolyl, imidazolyl, thiadiazolyl, pyrazolyl, pyridinyl, quinoxalinyl and benzothienyl each **R₂** is optionally substituted with one or more **R_a**;

5

R₆ is independently chosen from hydroxy, C₁₋₅ alkyl, C₁₋₅ alkoxy, phenyl, benzyl, phenethyl, heteroarylC₀₋₅ alkyl, heterocyclC₀₋₅ alkyl, C₃₋₇ cycloalkyl and amino said amino is optionally mono-or di-substituted by C₁₋₅ acyl, C₁₋₅ alkyl, C₁₋₅ alkoxy carbonyl, arylC₀₋₅ alkyl or heteroarylC₀₋₅ alkyl;

10 and wherein each recited heteroaryl in this paragraph is chosen from thienyl, furanyl, isoxazolyl, oxazolyl, thiazolyl, thiadiazolyl, tetrazolyl, pyrazolyl, pyrrolyl and imidazolyl, each optionally substituted by **R_b**;

n is 1-6;

15 **R₅** is chosen from phenyl, naphthyl, benzyl, phenethyl, C₁₋₅ alkyl, heteroarylC₀₋₅ alkyl wherein the heteroaryl in this paragraph is chosen from thienyl, furanyl, imidazolyl and pyridinyl, C₃₋₇ cycloalkylC₀₋₅ alkyl and heterocyclC₀₋₅ alkyl wherein the heterocycl is chosen from aziridinyl, pyrrolidinyl, tetrahydrofuran, tetrahydropyridinyl, morpholinyl, thiomorpholinyl, piperidinyl and piperazinyl, each **R₅** is optionally 20 substituted with one or more **R_c**;

R₇ is hydrogen, propenyl or C₁₋₃ alkyl and

R_d is chosen from hydrogen and C₁₋₃ alkyl.

25

4. The compound according to claim 3 wherein:

R₂ is chosen from phenyl and heteroaryl chosen from thienyl, furanyl, isoxazolyl, thiadiazolyl, pyrazolyl and pyridinyl each **R₂** is optionally substituted with one or more **R_a**;

R₃ is:

-(CH₂)_n-C(O)-R₆ or

-(CH₂)_n- R₆;

5 wherein R₆ is independently chosen from hydroxy, C₁₋₅ alkyl, C₁₋₅ alkoxy, phenyl, morpholinylC₀₋₅ alkyl, piperazinylC₀₋₅ alkyl, imidazolylC₀₋₅ alkyl, pyrrolidinylC₀₋₅ alkyl, pyrrolidinonylC₀₋₅ alkyl, thienylC₀₋₅ alkyl, C₃₋₇ cycloalkyl and amino said amino is optionally mono-or di-substituted by C₁₋₅ alkyl or C₁₋₅ alkoxycarbonyl;

10 R₅ is chosen from phenyl, furanyl, benzyl, phenethyl, C₁₋₃ alkyl and C₃₋₇ cycloalkylC₀₋₅ alkyl each optionally substituted with one or more R_c;

each R_a, R_b or R_c are independently chosen from C₁₋₅ alkyl, C₃₋₈ cycloalkyl, phenyl, C₁₋₅ alkoxy, amino optionally mono-or-di-substituted by C₁₋₅ alkyl, C₁₋₅ alkoxycarbonyl, carboxamide, hydroxy, halogen, trifluoromethyl, nitro and nitrile, wherein any of the above R_a, R_b or R_c are optionally halogenated where possible;

R₇ is C₁₋₃ alkyl;

and

20 R_d is chosen from hydrogen and methyl.

5. The compound according to claim 4 wherein:

R₂ is chosen from phenyl, thienyl, furanyl, isoxazolyl and pyridinyl each optionally

25 substituted with one or more R_a;

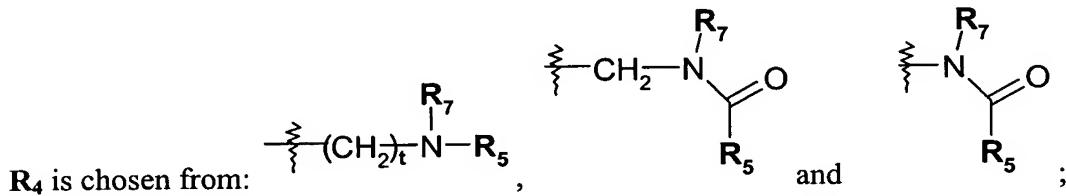
R₅ is chosen from methyl, CF₃, cyclopentyl, phenyl and cyclohexyl each optionally substituted with one or more R_c;

30 R_d is hydrogen and

n is 2-5.

6. The compound according to claim 5 wherein:

R₂ is chosen from phenyl, thien-2-yl, isoxazol-5-yl and pyridin-3-yl each optionally substituted with one or more **R_a**;



5

R₆ is independently chosen from hydroxy, methyl, ethyl, C₁₋₃ alkoxy, phenyl, morpholinyl, piperazinyl, imidazolyl, pyrrolidinyl, pyrrolidinonyl, thienylC₀₋₅ alkyl, C₃₋₇ cycloalkyl and amino said amino is optionally mono-or di-substituted by C₁₋₅ alkyl or C₁₋₅ alkoxycarbonyl;

10

and

each **R_a**, **R_b** or **R_c** are independently chosen from C₁₋₃ alkoxy, amino optionally mono-or-di-substituted by C₁₋₃ alkyl, carboxamide, hydroxy, fluoro, chloro, bromo, trifluoromethyl, nitro and nitrile.

15

7. The compound according to claims 2-6 wherein:

R₄ is covalently attached at the indicated 5- position of the formula (I).

8. The compound according to claims 2-6 wherein:

20 **R₄** is covalently attached at the indicated 6- position of the formula (I).

9. A pharmaceutical composition comprising a pharmaceutically effective amount of a compound according to claim 1 and one or more pharmaceutically acceptable carriers and/or adjuvants.

25

10. A method of treating an immunological disorder, said method comprising administering to a patient in need thereof a therapeutically effect amount of a compound according to claim 1.

11. A method of treating an inflammatory disorder, said method comprising administering to a patient in need thereof a therapeutically effect amount of a compound according to claim 1.

5

12. A method of treating an allergic disorder said method comprising administering to a patient in need thereof a therapeutically effect amount of a compound according to claim 1.

10 13. A method of treating a disease chosen from chronic inflammation, cancer, contact dermatitis, psoriasis, rheumatoid arthritis, multiple sclerosis, type 1 diabetes, inflammatory bowel disease, Guillain-Barre syndrome, Crohn's disease, ulcerative colitis, graft versus host disease, lupus erythematosus, asthma, chronic obstructive pulmonary disease (COPD), adult respiratory distress syndrome (ARDS), bronchitis, conjunctivitis, 15 dermatitis and allergic rhinitis said method comprising administering to a patient in need thereof a therapeutically effect amount of a compound according to claim 1.

20 14. A method administering a vaccine to an individual in need thereof comprising co-administration of a vaccine and a pharmaceutically effective amount of a compound according to claim 1.

25